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Q. Please state your name and business address.

A. My name is Paul Florack. My business address is 7400 West 129th Street, Overland Park, KS 66213.

Q. What is your current position?

A. I am Vice President for Network Services in the Product Management and Development division at Illuminet.

Q. Please describe your qualifications.

A. I have over 15 years of experience in the telecommunications industry. Prior to my work at Illuminet, I held positions in Engineering, Operations, and Technical Marketing for the Frontier Corporation where my responsibilities included planning the Signaling System No. 7 ("SS7") strategy for its regional telephone operations. I joined Illuminet's Product Management and Development department in 1993. I currently am Vice President of Network Services with responsibility for all Illuminet network service product lines, such as ISUP Trunk Signaling and Wireless Messaging. In addition, I am co-author of "Wireless Intelligent Networking", published by Artech House in 2001. This book discusses wireless intelligent networking using the SS7 network. I have been a speaker at several industry conferences hosted by organizations such as the Cellular Telephone Industry Association, Telestrategies, and the Association for Local Telephone Services. My educational background consists of a B.A. in Mathematics from Potsdam College, a B.S. in Electrical & Computer Engineering from Clarkson University, and an M.B.A. from the University of Rochester's Simon School.

Q. What are your current responsibilities at Illuminet?

A. My responsibilities include profit/loss responsibility for a complete line of Illuminet's SS7 network service offerings for both wireline and wireless carriers. This would include such fundamental telecommunications services as SS7 Connectivity, ISUP Trunk Signaling, TCAP CLASS Messaging, and Network Reporting services for competitive local exchange, interexchange, independent telephone and wireless telecommunications

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1		carriers. In addition, I am responsible for Illuminet's wireless network service offerings
2		that include seamless roaming, fraud, intelligent network, text messaging, and
3		mediation services.
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5	Q.	Have you previously testified before the Arizona Corporation Commission
6		("Commission")?
7	A.	No, this is my first appearance before this Commission.
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9	Q.	Have you reviewed the proposed intrastate access tariff that Qwest has filed,
10		which is the subject of this proceeding?
11	A.	Yes. I have reviewed it from a technical and public policy perspective.
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13	Q.	Can you summarize your testimony?
14	A.	Yes. Illuminet requests that the Commission reject the proposed tariff because Qwest
15		cannot demonstrate that the proposed switched access charges in the tariff will only be
16		billed for SS7 signaling associated with intrastate switched access for intrastate toll
17		traffic. To the contrary, it is Qwest's apparent intent to impose switched access charges
18		on customers contrary to existing interconnection arrangements, or failing that, to
19		impose charges in a manner in which Illuminet cannot pass them through to the
20		Illuminet carrier/customers. If the tariff is not rejected, the substantial benefits of
21		economy of scale and scope, which Illuminet provides by aggregating demand for SS7
22		functionality for a broad range of telecommunications carriers will be seriously impaired
23		if not lost.
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25		In developing the proposed tariff, Qwest failed to properly consider the pre-existing
26		constraints on its ability to recover certain of its SS7 message costs under a switched
27		access tariff. Those pre-existing constraints relate to the treatment of SS7 messaging
28		associated with (1) jurisdictionally local/Extended Area Service ("EAS") traffic, (2) jointly

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provided intrastate access between two or more telecommunications carriers, and (3)

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Owest-provided intrastate end user toll services. This failure is evident from the tariff provisions regarding the Percent Interstate Use ("PIU") factor, which establishes the intrastate usage percent as "100% - PIU." The result is that SS7 messages associated with the end user traffic types for which intrastate access charges do not apply will be charged for under this proposed tariff. This concern is all the more evident in that Illuminet anticipates being provided inadequate billing detail by Owest to verify proper billing under the proposed tariff. In addition to rejection of the proposed tariff, Illuminet also requests that the Commission established the following principle in order to provide quidance to Owest if it chooses to refile a corrected tariff: The assessment of SS7 message charges by Qwest should be determined by applying the terms and conditions of the agreement between Qwest and the Illuminet carrier/customer (or other thirdparty provider) associated with the specific jurisdictional class of end-user traffic (i.e., the interconnection arrangements for local service/EAS or the access tariff for Interexchange toll traffic). To ensure the proper application of these arrangements, Owest should also provide sufficient detail to permit the company receiving such charges to verify independently that such charges are assessed in compliance with the proper arrangement. Because none of these prerequisites are present in the proposed tariff, Commission rejection of the Qwest proposed tariff is warranted.

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Q. Who is Illuminet and what type of SS7 related services does it provide?

A. Illuminet is a third-party private carrier of SS7 services for a variety of carrier/customers. Illuminet does not serve any end-users nor does Illuminet carry any end-user traffic of its own or of its carrier/customers. Illuminet serves some 900 telecommunications carriers across the country and internationally. With respect to the SS7 network, Illuminet provides SS7 connectivity to all segments of the telecommunications industry including Interexchange Carriers ("IXCs"), Competitive Local Exchange Carriers "CLECs"), Incumbent Local Exchange Carriers ("ILECs") and Commercial Mobile Radio Service ("CMRS") providers. In this testimony, I refer to these entities as Illuminet's "carrier/customers". Illuminet provides these carrier/customers with the ability to utilize Illuminet as their SS7 network in order for these carrier/customers to be able to deliver

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1		advanced intelligent network and database services to their end-user customers and to
2		efficiently process end user traffic over their networks. Illuminet also provides a billing
3		clearinghouse service for many customers. Illuminet deployed its network to provide a
4		competitive alternative to the SS7 services of other providers (such as Qwest), and has
5		achieved nationwide connectivity of its SS7 services.
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7	Q.	What is Signaling System No. 7?
8	A.	SS7 is an industry standard protocol for performing signaling that supports call-
9		establishment, billing, routing, and information-exchange functions of the public
10		switched telephone network (PSTNs) without relying upon the PSTNs voice paths.
11		Signaling refers to the exchange of information required to provide and maintain end-
12		user voice and data services. SS7 utilizes high-speed packet data and out-of-band
13		signaling.
14		
15	Q.	What types of functions does the SS7 network perform?
16	A.	Among other functions, the SS7 network is used for:
17		 Basic call setup, management, and tear down;
18		 Wireless services such as personal communications services (PCS), wireless
19		roaming, and mobile subscriber authentication;
20		Local Number Portability (LNP);
21		■ Toll-free (800/888/8XX) database services; and,
22		■ Enhanced call features such as Custom Local Area Signaling Services ("CLASS")
23		which includes automatic callback, calling party name/number display and other
24		intelligent network database services such as Line Information Database ("LIDB").
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- A. SS7 is a means by which elements of the telephone network exchange information.

 Information is conveyed in the form of "signaling messages". SS7 messages can convey information such as:
- I'm trying to set up a call on trunk 067 placed from 928-783-1234 (Yuma) to 602 585-5678 (Phoenix).
 - Someone just dialed 800-555-1212. Where do I route the call?
 - The called subscriber for the call on trunk 11 is busy. Release the trunk and play a busy tone. The route to XXX is congested. Please don't send any messages to XXX via this route.

Q. Could you explain your reference to the SS7 network utilizing high-speed packet data?

A. Yes, I would be pleased to. SS7 messages are exchanged between SS7 network components over 56 or 64 kilobit per second (kbps) bi-directional channel signaling links (<u>i.e.</u>, two-way signaling links). Signaling occurs "out-of-band" on dedicated channels rather than on the voice channels (or so-called "in-band" signaling). Each signaling point in the SS7 network is uniquely identified by a numeric point code. Point codes are carried in signaling messages exchanged between signaling points to identify the source and destination of each message. Each signaling point uses a routing table to select the appropriate signaling path for each message.

- Q. Please describe the major components that make up the SS7 network.
- SCP (Service Control Point)
- STP (Signal Transfer Point)

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 SSP (Service Switching Point) (In a CMRS network the SSP functionality is located in the Mobile Switching Center ("MSC"))

An SCP is the entity that provides the interface to a network database that provides storage for call routing information (such as in the case of an 800 call) or call completion information (for example, in the case of collect calls). The SCPs generally respond to SS7 message gueries initiated by SSPs. The STPs main function is to switch and address SS7 messages. An STP as connected to other STPs and are interconnected via facilities known as "B-links", which in order to ensure diverse routing, consist of at least four (4) links (two between each STP). STPs do not originate SS7 traffic other than network maintenance messages, which are not the type of SS7 messages at issue in this proceeding. Finally, the SSPs are typically digital switches with SS7 messaging hardware and software that allow them to originate and terminate SS7 messages for call set-up and tear down and for accessing databases housed by an SCP. SSPs are connected to STPs via facilities known as "A-links", two of which, for redundancy, are required to connect the SSP with its STP. An SSP generates the initial SS7 messaging required when an end-user wants to make a call, and, on the terminating end of an end-user call, provides the messaging required to ensure that the voice path is available to the enduser that the customer is calling. Illuminet does not own or operate SSPs since it is not a telecommunications carrier providing services to end-users. Illuminet's customers are "carriers." These carrier/customers own and operate SSPs. In addition, some of Illuminet's carrier/customers own their own STPs. I have attached a diagram, which illustrates the typical SS7 network figuration. (See Exhibit E.)

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Q. What benefits does the SS7 network provide?

- A. Compared to in-band signaling, out-of-band signaling provides:
- Faster call setup times (compared to in-band signaling using multi-frequency (MF) signaling tones)
- More efficient use of voice circuits;
 - Support for Intelligent Network (IN) services which require signaling to network elements without voice trunks (e.g., database systems);

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• Improved control over fraudulent network usage.

Q. What benefits does Illuminet bring to its carrier/customers?

A. Illuminet provides its carrier/customers with the economies of scale and scope of the largest independently owned SS7 network in the United States. Illuminet is able to offer wireline and wireless telecommunications carriers diversity, reliability and redundancy, and provide a full range of services to meet their end user requirements as well as federal and state mandates such as number portability. In light of its commitment to provide state-of-the-art SS7 signaling service, Illuminet is able to provide its carrier/customers an alternative to their own deployment of a separate SS7 network, which, in turn, saves financial and internal resources for them. Moreover, Illuminet's efficiencies provide an entity the ability to enter the marketplace quickly with all its necessary SS7 functionality in place. Further, Illuminet does not compete with its carrier/customers for any end-user customers. Accordingly, Illuminet offers the ability for its carrier/customers to turn to a separate entity to provide their portion of the SS7 network required to connect to the SS7 networks of the very telecommunications carrier that the Illuminet carrier/customers compete with for end-users and end-user voice and

data traffic.

Q. Are there any additional operating efficiencies that an Illuminet carrier/customer achieves by using Illuminet?

A. Yes. Illuminet's carrier/customers have the need to provide SS7 signaling with multiple carriers, including Qwest. Our carrier/customers connect to Illuminet so that they can take advantage of the opportunity to connect with one third party SS7 provider and, through this connection, have access to several ILECs, CLECs, CMRS providers and IXCs. This eliminates the need for such carrier/customers to establish SS7 network arrangements with others SS7 networks, thereby creating a more technically and economically efficient means for SS7 service provisioning. Moreover, by connecting to third party SS7 networks, like that operated by Illuminet, carriers can minimize administrative costs associated with managing multiple connections to various signaling

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1	partners, as well as investment in additional hardware and facilities to support those
2	connections.

Q. Can you describe the administrative and facilities savings that you just referenced?

A. When a carrier/customer connects to Illuminet and requests service into an ILEC territory such as that served by Qwest, Illuminet takes the lead in communicating the required information in the form of Access Service Requests "ASRs" and Letters of Agency "LOAs" in order to have Qwest perform the necessary translations in its network. Illuminet also acts as a central point of contact for interfacing with the ILECs regarding SS7 network issues for the Illuminet's carrier/customers.

 Likewise, third party SS7 providers also provide Transaction Capability Part ("TCAP") services such as LNP, 800, calling name, LIDB and CLASS in competition with the ILEC. Illuminet's LNP data service, for example, provides carriers the ability to obtain call completion information (i.e., location routing numbers ("LRNs")) necessary to complete calls without investing in the LNP infrastructure. The ILECs offer such a service but it is typically bound to LRN information for the specific Number Portability Administration Center ("NPAC") region in which the ILEC operates. Illuminet provides LRN information across all seven US NPACs.

Q. Does Qwest realize any benefits from the existence of third party SS7 providers such as Illuminet?

A. Definitely. The same economies of scale and scope noted above benefit not only the Illuminet carrier/customer, but also Qwest. For example, by establishing physical interfaces to third party SS7 providers, Qwest has to deploy SS7 monitoring equipment for billing and surveillance to monitor fewer links than it would if all telecommunications carriers directly connected to Qwest. Furthermore, via connections to Illuminet that are paid 100% by Illuminet, Qwest has immediate SS7 access to Illuminet's carrier/customer base, thereby allowing Qwest customers to complete calls to other telecommunications carriers without establishing its own direct link to those carriers.

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2	Q. Does Illuminet transmit any SS7 signaling messages on its own behalf that
3	are subject to the proposed tariff charges?

A. No. All of the SS7 messages that traverse the Illuminet SS7 network for which Qwest proposes to charge Illuminet, including Qwest originated SS7 messages and those SS7 messages originated by Illuminet's carrier/customers for termination on Qwest's network, are associated with an underlying voice or data message from a provider of end-user telecommunications services.

Q. In Illuminet's view is SS7 signaling integral to the transmission of the underlying end user voice and data on the PSTN?

A. Yes. SS7 signaling, and specifically ISUP (ISDN User Part) messaging which is an SS7 user protocol that defines the process for call establishment and disconnection, was created and exists solely to assist in the transmission of underlying voice and data messaging from one end-user to another to maximize efficient and economic use of the PSTN.

Q. Should the proposed tariff be approved?

A. No. As filed, the proposed tariff is seriously deficient and will unjustifiably impact Illuminet and our carrier/customers. Therefore, the Commission should not approve this tariff until Qwest makes major modifications to its proposal.

Q. Is Illuminet opposed to Qwest's unbundling of SS7 services?

A. No. In fact, Illuminet supports the concept of unbundling which is clearly demonstrated by the fact that Illuminet developed the software (AMAT7) that Qwest uses to bill for unbundled services. Illuminet is opposed, however, to improper application of such unbundling. More specifically, Qwest's vague and uncertain tariff language and the

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inability of Qwest to properly identify traffic or properly assess charges demonstrates that Qwest cannot ensure that its proposed tariff can be implemented in a manner that addresses the significant concerns that Illuminet has raised with the Commission.

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Q. In general, what are Illuminet's concerns regarding this tariff?

A. Illuminet believes Qwest's proposed tariff is deficient in several areas. The proposed tariff fails to disaggregate intrastate SS7 messaging into its two component parts—SS7 messaging associated with intrastate toll calls to which Owest's tariff applies (i.e., IXC) traffic and intraLATA toll traffic sent from the CLEC end users to Qwest end-users) and SS7 messaging associated with traffic to which Qwest's access tariff does not apply (e.g., local and extended local calling area service ("EAS") end user traffic, jointly provided exchange access, and intraLATA toll traffic sent from Qwest to a CLEC ("Non-Chargeable Traffic"). In addition, implementation of the proposed tariff as filed will likely result in inequitable and anti-competitive impacts upon both Illuminet and the carrier/customers it serves. Illuminet believes that Qwest has prematurely unbundled SS7 messaging from its switched access tariffs. In discussions between Qwest and Illuminet, Qwest has indicated that its billing system will not allow it to bill for messages by proper jurisdiction, i.e.. Owest is unable to disaggregate SS7 messages associated with interstate toll traffic, intrastate toll traffic, and Non-Chargeable Traffic. Rather than take the steps necessary to adjust its billing systems and allow correct billing, Qwest apparently would rather attempt to convince the Commission that Owest should bill for SS7 messages associated with all calls regardless of whether such SS7 messages are associated with end-user traffic that is properly subject to an intrastate access tariff.

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Q. Could you explain what you mean by "disaggregating messages associated with Non-Chargeable Traffic"?

A. For example, as proposed by Qwest, all messages other than those associated with interstate traffic would be assessed intrastate access charges, including SS7 messages that support jurisdictionally "local" end-user traffic and Qwest's intraLATA toll end user

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traffic sent from Qwest to CLEC end users. Qwest's attempt to charge for SS7 messages that are associated with these calls should not be allowed in an intrastate access charge tariff. An access charge tariff addresses the charges assessed by a telephone company to a telephone toll provider (which can be an IXC or LEC) associated with that telephone toll provider's use of the telephone company's network for the origination and termination of that telephone toll providers traffic.

As such, local/EAS traffic and toll traffic originated by Qwest and sent to an Illuminet

As such, local/EAS traffic and toll traffic originated by Qwest and sent to an Illuminet carrier/customer and the associated SS7 messages are Non-Chargeable Traffic under Qwest's proposed tariff.

Q. What provision of the tariff supports your conclusion?

A. Section 15, Page 5, Release 2, 15.4.1 Jurisdiction, Proposed Arizona Access Service Tariff state that the intrastate charges under this proposed tariff shall apply to all SS7 messages derived by the formula "100%-PIU". The effect of this provision reflects Qwest's view that it is proper to recover all SS7 costs through the proposed tariff except those recovered through the interstate access tariff.

Q. What do you mean by "jointly provided exchange access" on an intrastate toll call?

A. I use the term exchange access to describe the use of a telephone company's local network for the origination and termination of telephone toll calls. The situation I am referencing arises when both: (1) the end user making an intrastate toll call is using an IXC as its toll provider that is not either Qwest or the Illuminet carrier/customer; and (2) the networks of both the Illuminet carrier/customer and Qwest are used by the IXC in originating or terminating its telephone toll traffic (such as where the Illuminet carrier/customer operates an end office subtending a Qwest tandem and Qwest operates the tandem where the IXCs Point of Presence is located.) In this instance, the networks of both Qwest and the Illuminet carrier/customer are providing exchange access to the IXC and, therefore, are "jointly" providing exchange access to the IXC. In

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this situation, the IXC is billed through what is commonly referred to as a meet point billing arrangement.

Q. Is this a concern under the proposed tariff filing?

A. Yes. It is unclear from the tariff language whether Qwest plans to charge the Illuminet carrier/customers when Qwest and the carrier/customer are jointly providing exchange access on an intrastate toll call.

Q. Why does this situation create an issue under the tariff?

A. It is my understanding that the method by which LECs bill IXCs for "jointly provided exchange access" is described in industry guidelines and are typically set forth in the contracts between the LECs. For example, the Less may agree to bill the IXC separately (according to each Less access tariff) for the IXCs use of that portion of each of the Less network, or the LEC may agree that one of them will aggregate each Less tariffed access charges and bill the IXC for all the exchange access that the IXC uses related to its end user toll traffic (and to reimburse the non-billing LEC its access charges paid by the IXC). The proposed tariff is so vague that there is a distinct possibility that its implementation would violate either of these types of meet point billing contracts.

Q. What are the anti-competitive concerns that Illuminet has with respect to Qwest's proposed tariff?

A. As indicated above, Illuminet and other third party providers of SS7 services are direct competitors to Qwest in the SS7 marketplace, and many of our carrier/customers also compete for end-users with Qwest. The proposed tariff will result in the unwarranted assessment of intrastate access charges associated with Non-Chargeable Traffic, thereby exposing Illuminet and its carrier/customers to significant increases in the cost of doing business and threatening Illuminet and its carrier/customers continued competitive viability and market position. Moreover, Illuminet believes that there is a potential for anti-competitive and discriminatory treatment by Qwest in the way Illuminet and its carrier/customers would be charged for SS7 messaging by Qwest associated with Non-Chargeable Traffic, particularly local traffic, versus how Qwest may charge its own direct

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<u>connect</u> SS7 messaging customers. Qwest has not shown in its testimony that a direct
connect customer to Qwest ($\underline{\text{i.e.}}$, the customer connects its SSP directly to a Qwest STP)
would be treated in the same manner as those carriers using a third party SS7 provider.
Accordingly, Qwest could engage in undetected and unreasonable discrimination by
marketing its services at a less costly alternative to any other SS7 provider by simply
failing to apply the proposed tariff structure to its direct connect SS7 customer. If this
were to occur, Illuminet runs the risk of losing customers who may migrate to Qwest
and/or find it extremely difficult to market its services to Qwest's existing direct connect
customers who will, absent rejection of the tariff, be faced with additional charges for
local SS7 messaging if they become customers of Illuminet or another SS7 provider.
Similarly, existing Illuminet carrier/customers would have additional charges passed on
to them by Illuminet pursuant to their arrangements with Illuminet regardless of how,
for example, their ICAs with Qwest treat SS7 message charges associated with local
end-user traffic exchanged with Qwest. To the extent that such charges are not
authorized under a particular ICA, the proposed tariff would allow Qwest to unilaterally
increase the costs of interconnection.

Q. Has Qwest provided any connectivity options to address SS7 messaging associated with local end-user traffic?

A. Yes. In discussions between Qwest and Illuminet, Qwest has previously suggested that Illuminet could establish separate connections into Qwest for SS7 traffic that is local in nature. Apparently, that would solve Qwest's billing problem and allow them to treat local traffic separately.

Q. Has Illuminet pursued that option?

A. No. That option is neither technically nor economically feasible. It would require the STPs to route signaling traffic based on the jurisdictional nature of the underlying end user traffic, which is not an available or practical feature in an STP. The only other way to separate such traffic would be for all Illuminet customers to establish a second

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separate point code in their SSPs, and use that point code for all local call routing. Some SSPs do not support that capability, and even if they did, it would require complete duplication of Illuminet's and their carrier/customers SS7 networks in order to keep the local traffic separate. Also, where Illuminet carrier/customers interconnect their own STPs (not the central offices) with Illuminet's STPs, such a signaling configuration is not technically feasible. Qwest has not demonstrated that it maintains this jurisdictional separation in its own network because its connectivity with Illuminet and the Illuminet's carrier/customers carry both access and Non-Chargeable Traffic. Further, it is completely unreasonable as a solution to Qwest's billing problem under this proposed tariff to impose these additional facility and operational expenses upon Illuminet and other entities simply because Qwest has proposed an unbundled SS7 tariff structure under which it cannot properly bill.

Q. What would Illuminet like the Commission to do in this proceeding?

A. Illuminet would like the Commission to reject the tariff and direct Qwest to refile the tariff only if it can demonstrate that it properly excluded from billing under the proposed tariff all Non-Chargeable Traffic. In addition, Illuminet requests the Commission establish a fundamental principle that will govern the relationship Qwest seeks to establish with third party providers of SS7 services such as Illuminet.

Q. What is the fundamental principle you are referencing?

A. It is based on common sense: The arrangement that governs the handling of the end-user traffic equally governs the treatment of the SS7 messaging since that messaging is an integral component of the end-user traffic. Thus, if SS7 signaling messages are associated with intrastate toll end-user traffic, and intrastate toll is subject to an access tariff, the access tariff applies. Similarly, if SS7 signaling messages are associated with local end-user traffic, and local end-user traffic is subject to an ICA or other contract, the agreement or contract applies.

Q. Has Qwest been willing to recognize this principle?

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A. No. Qwest has not been willing to recognize that Illuminet acts on behalf of its carrier/customers despite the fact that Qwest does treat Illuminet this way for operational purposes (Illuminet is required to submit "LOAs" from our carrier/customers before Qwest will perform any network translation work).

Q. If the proposed tariff is not rejected, what alternative relief would Illuminet request that the Commission grant?

B. Assuming, for sake of argument, that the Commission would not reject the tariff outright, Illuminet requests that the Commission take the following actions. First, that the Commission direct Qwest to incorporate within its proposed tariff the fundamental principle noted above in an explicit and clear manner. To this end, Illuminet has attached its initial proposal (see Exhibit A), which was provided in its August 21, 2001 letter filing with the Commission. Second, Illuminet requests that the Commission require Qwest to refrain from billing Illuminet and its carrier/customers for any Non-Chargable Traffic as I have defined that term.

Q. Can Qwest identify Illuminet's carrier/customers for purposes of billing them for SS7 messaging in accordance with their ICAs?

A. Qwest is informed of each Illuminet carrier/customer prior to the establishment of any necessary network signaling arrangements between Illuminet and Qwest for the exchange of SS7 signaling. Qwest requires that Illuminet provide to Qwest LOAs from any Illuminet carrier/customer designating Illuminet as its SS7 network provider agent. Samples of these LOAs for the Illuminet carrier/customers that are parties to this proceeding are attached. (See Exhibit B.) Moreover, Qwest has informed Illuminet that the ordering process that an Illuminet carrier/customer undertakes with Qwest for that carrier/customer's voice or data trunk must specifically identify the point code associated with that carrier/customer's switch and the identity of its SS7 provider. Accordingly, all information necessary for Qwest to verify the carrier/customers of Illuminet is in Qwest's possession. With this information, Qwest can then determine which of the Illuminet carrier/customers have interconnection agreements with Qwest that permit SS7 signaling charges for local traffic. Based on the volume of local messages it receives

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from the point codes associated with those Illuminet carrier/customers, Qwest can then assess the necessary charges directly to the affected Illuminet carrier/customers pursuant to the terms and conditions of the relevant ICA. If the ICA between the Illuminet carrier/customer and Qwest allows Qwest to charge for SS7 local messages that Qwest originates, then Qwest could also directly charge those SS7 messages to that carrier/customer.

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Q. Isn't this arrangement burdensome to Qwest?

A. As the proponent of the tariff, Qwest has to demonstrate that it can properly implement the tariff structure it proposes. Moreover, Qwest currently manages multiple interconnection agreements with various telecommunications carriers, some of which presumably have different terms and conditions. Therefore, administration of this relationship should not be any additional significant burden. If this option is chosen by the Commission. Owest's proposed tariff would need to be amended to ensure that the PIU provisions also included language that exclude from the proposed charges SS7 messages associated with Non-Chargeable Traffic. This "manual process" was incorporated into Illuminet's proposed revisions contained in its August 21, 2001 letter to the Commission. (See Exhibit A.) Although Illuminet's original proposal discussed the concept of a "Percent Local Use" factor, that factor should include all SS7 message types associated with Non-Chargeable Traffic including Non-Local Non-Chargeable Traffic. Moreover, this would be a starting point for the type of revisions to the proposed tariff required to ensure proper billing and billing detail by Qwest. For example, Illuminet would be open to renaming this new factor to some other term as long as the term and the tariff are clear and unambiguous. In any event, if this is a significant burden, then Owest should withdraw its tariff until it can avoid this manual process and record actual SS7 message usage by point code, by jurisdiction and type of SS7 message.

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Q. In your view, does the capability exist to record the SS7 message usage you have outlined?

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A.	Yes. Qwest has purchased a data capturing system known as AMAT7 from Agilent. As
	indicated above, Illuminet developed the software for the AMAT7 system. This system
	provides the fundamentals to allow Qwest to capture the SS7 messaging for which their
	tariff is based. This robust system is capable of identifying not only how many
	messages traverse a given set of A-links and B-links, but it can also supply more
	detailed information including the point codes of the switches used to process the call.
	This information can be used to identify the companies that are placing calls to Qwest or
	receiving calls from Qwest. This system can also distinguish between the types of SS7
	messages that are being transmitted over a link-set.

Q. Has the full AMAT7 measurement capability been deployed?

A. Apparently not, based on Qwest's stated inability to properly identify SS7 messages by point code.

Q. Is it proper for the Commission to require Qwest to implement automated measurement requirements?

A. Yes. The underlying FCC decision allowed certain ILECs to propose the same unbundled SS7 rate structure as that filed by Qwest in this proceeding and to "acquire the appropriate measuring equipment as needed to implement such a plan." First Report and Order 12 FCC Rcd 15982, 16090 (para. 253) (1997). In any event, as a matter of policy and in a manner entirely consistent with the FCC statement, Qwest, as the proponent of the tariff, should bear the burden to demonstrate it can properly implement its tariff structure and has either the manual or automated billing capability in place prior to even proposing the tariff structure at issue.

Q. Did Illuminet oppose the FCC action?

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A. No. There was no reason to oppose a policy of unbundling when the FCC recognized that the proponent of such unbundling must properly implement its unbundled structure.

Q. Why would the relief Illuminet is requesting advance the public interest?

A. As indicated before, the relief that Illuminet is requesting places the proper implementation of the proposed tariff structure Qwest seeks upon Qwest. Likewise, the requested relief avoids the improper billing under an intrastate access tariff of SS7 signaling that is an integral component of originating and terminating local and EAS service end-user traffic being generated by and terminated to the Illuminet carrier/customers and intraLATA toll traffic originated by Qwest and sent to the Illuminet carrier/customers. Further, the relief would properly reflect the meet point billing arrangements in place between Qwest and the Illuminet carrier/customers. The relief also avoids the anti-competitive consequences noted above that would result if Qwest's proposed tariff structure were allowed to go into effect as filed. Moreover, the relief will avoid the possibility of Qwest double recovering certain of its SS7 message costs through intrastate access charges for SS7 messages associated with the local traffic Qwest's end-users generate and receive from other telecommunication providers.

Q. How could Qwest "double recover" its SS7 message costs associated with that local traffic that its end-users generate and receive from other carriers?

A. At least conceptually, Qwest should have apportioned its SS7 costs in some manner among all of its services, including local services that utilize Qwest's SS7 capabilities. Likewise, through its ICAs with telecommunications carriers, Qwest presumably has included recovery of the SS7 messaging costs associated with the local traffic being delivered by those providers for termination to Qwest's local end-users. Accordingly, if Qwest is allowed to assess Illuminet and its carrier/customers for SS7 messages associated with local traffic under the proposed intrastate access tariff, that action raises the distinct probability of double recovery by Qwest of its "local" SS7 costs (let alone shifting the recovery of those costs to its competitors). Moreover, to the extent that Qwest is terminating its end-user intrastate toll traffic to the Illuminet carrier/customer,

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the charges for the use of terminating SS7 functions should be part of the costs recovered from the toll rates charged by Qwest to its end-users. To allow Qwest to recover these SS7 costs from the Illuminet carrier/customer would permit Qwest to recover these costs twice—once from its toll end-user and another from the Illuminet carrier/customer.

Q. By its approach, is Illuminet trying to avoid paying the costs it imposes on Qwest's SS7 network?

A. Absolutely not. While I am aware that such suggestions have been made, they are entirely false and inappropriate. Illuminet pays Qwest for the dedicated facilities that connect Qwest's STPs with Illuminet's STPs, i.e., the B-links. Likewise, where Illuminet is providing the SS7 network on behalf of one of its IXC carrier/customer, Illuminet and its IXC carrier/customer fully expects that Qwest will assess its SS7 message charges associated with that traffic, to Illuminet. Illuminet, in turn, will then pass through those charges to its IXC carrier/customer. Thus, any additional costs that Qwest bears as a result of the intrastate toll end-user traffic generated by an Illuminet carrier/customer would be recovered, and, most importantly, recovered from the very carrier/customer (in this case the IXC) that has received the reduction in the intrastate access charges that Qwest has testified have been made through its filing. It bears noting again that all of the SS7 messages that traverse the Illuminet SS7 network for which Qwest proposes to charge are associated with an underlying voice or data message from a provider of end-user telecommunications services.

Q. But Illuminet is a "customer" under the existing Qwest tariff so why is Qwest wrong in demanding that it pay charges for such services?

A. Illuminet has obtained B-links and port connection to Qwest's SS7 network through Qwest's Tariff F.C.C. No. 1. That connection uses the same network configuration and facilities for three jurisdictional types of SS7 messaging generated by Illuminet's carrier/customers and similar traffic being generated by Qwest, i.e., SS7 messaging associated with interstate exchange access, intrastate exchange access and local

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exchange (including EAS services) services. Charges, terms and conditions for each jurisdictional type of traffic are determined pursuant to the rules applicable to that type, i.e., charges for signaling in connection with interstate access service are subject to the interstate access tariff, charges for signaling in connection with intrastate access service are subject to intrastate access tariffs, and service charges (if any) for signaling in connection with local/EAS service and the Owest originated intraLATA toll are determined in accordance with the local service arrangements between Qwest and Illuminet's carrier/customers. Therefore, Illuminet's rights to ensure that charges associated with such SS7 messages are derivative of the rights of its carrier/customers. Accordingly, while Illuminet is a customer of Qwest since it has ordered the necessary Blinks to connect to Qwest's STPs, does not permit Qwest to ignore that its proposed tariff attempts to assess intrastate access charges for traffic for which it has established different treatment under agreements that Qwest has with the Illuminet carrier/customers. Again, Qwest requires that Illuminet disclose the identity of its carrier/customers through LOAs and Illuminet's carrier/customers order voice/data trunk groups that reflect their SS7 service provider. To suggest therefore that Qwest has no customer relationship jointly with the Illuminet carrier/customer and Illuminet defies the facts. Moreover, absent such conclusion, the Commission would be providing its approval to Owest's effort to improperly assess charges, thereby unjustly enriching Owest based on its own premature efforts to unbundle using a structure where it is clear that Qwest cannot properly differentiate for that which it should and should not bill.

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Q. On what basis would Illuminet pass through Qwest's charges under the proposed tariff to the Illuminet carrier/customer?

A. Illuminet's arrangements with each of its carrier/customers provides that Illuminet will flow through charges of other SS7 providers such as those SS7 message charges proposed by Qwest. Under these arrangements Illuminet flows through such charges without markup. Specifically, Attachment C, Section D. of the Signaling and TCAP/CLASS Service Agreement (see Exhibit C) states, "All fees contained herein are strictly for transport of ISUP Messages and Responses through the ILLUMINET Network. Any other fees levied by third party providers are the Customer's responsibility.

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1		Customer should make arrangements for payment of such fees directly with the billing
2		party, or if billed to ILLUMINET, such fees will be passed through to Customer." Similar
3		language is contained in the LEC Trunk Signaling Service Agreement and the ISUP
4		Messaging Service Agreement ILLUMINET has executed with its carrier/customers.
5		
6	Q.	Have you raised your concerns with Qwest?
7	A.	Yes. Illuminet has had a number of discussions with Qwest on this issue. Moreover, in
8		November of 2000, Illuminet provided to Qwest a position paper (see Exhibit D)
9		outlining the position that Illuminet now requests the Commission adopt here.
10		Unfortunately, no substantive resolution of the issues raised in the position paper or the
11		instant tariff filing have been made.
12		
13	Q.	Have you reviewed the prefiled testimony of Scott A. McIntyre filed by Qwest
14		in this proceeding on November 30, 2001?
15	A.	Yes.
16	•	De very have any comments and for checurations remarking Mr. McInturals
17	Q.	Do you have any comments and/or observations regarding Mr. McIntyre's
18		testimony?
19	A.	Yes. Mr. McIntyre's statement that Illuminet has "created a business of charging other
20		carriers for what they obtain at no charge from Qwest" (page 19, lines 13-15) or the
21		inference that Illuminet's business is based on "subsidies or arbitrage pricing" (page 20,
22		line 9) is not only offensive but is entirely without any basis in fact. Contrary to Qwest's
23		unfounded assertions, Illuminet's business, as shown in this testimony, is based on
24		providing real value to the industry, including Qwest, and does not involve any scheme
25		to obtain service for which it or its carrier/customers do not fully compensate Qwest.
26		The service Illuminet provides is a hubbing function that allows carrier/customer access
27		to Qwest network. Illuminet bears all the cost of the signaling links and STP resources.
28		Illuminet is not reselling or repackaging access service. These highly objectionable

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allegations should not distract the Commission from understanding the true issue in this

case: whether Qwest, under the guise of unbundling, should be allowed to recover in a

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switched access rate the cost of SS7 signaling associated with services for which switched access charges are not applicable.

Q. Do you agree with Mr. McIntyre (page 17, lines 2-17) that Illuminet is "receiving the use of Qwest's signaling network at no charge"?

A. Absolutely not. Once again, Mr. McIntyre's testimony may confuse the record in that it does not properly reflect either the relationship that Illuminet has with Qwest or the relationship that the Illuminet carrier/customers have with Qwest. Mr. McIntyre's testimony fails to address the fact that in Arizona, Illuminet pays Qwest directly every month for port charges and indirectly through facility providers for local loop charges so that the Qwest STPs and Illuminet STPs can be connected. Moreover, Mr. McIntyre fails to recognize that Illuminet is acting on behalf of its carrier/customers and when one of those carrier/customers is the end-user's intrastate toll provider, Illuminet expects to be billed SS7 message charges on behalf of the carrier/customer pursuant to the proposed access tariff structure.

Q. Does Qwest pay Illuminet for the use of Illuminet's service?

A. No, even though Illuminet incurs costs associated with Qwest originated SS7 messages for the delivery and receipt of SS7 signaling generated by Qwest on behalf of its enduser customer's traffic, Qwest pays nothing to Illuminet. Therefore, placed in proper context, it is Qwest that is attempting through the proposed tariff structure to shift its SS7 costs to the Illuminet carrier/customer because of Qwest's inability to properly measure, identify and bill for only those intrastate SS7 signaling messages properly included under the proposed tariff. Further, instead of paying for termination of local calls into other networks, Qwest's proposed tariff would have other networks pay them.

Q. Is Qwest's claim that its tariff revisions are revenue neutral to it a sufficient basis for Commission approval?

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A. No. For the reason I have stated, "revenue neutrality" to Qwest (even assuming it exists) is not a sufficient basis for the Commission to conclude that the proposed tariff is consistent with the applicable statute and Commission Rules, nor that it is consistent with Mr. McIntyre's stated objective on page 8 to "allow different network users to use different parts of the network, but only pay for what they use." A real question arises as to the revenue neutrality of this proposed tariff because Illuminet estimates approximately 50% of the increased charges would be levied on Illuminet and its carrier/customers, which, because the Illuminet carrier customers are primarily local service providers, most likely provide much less than fifty percent (50%) of the intrastate toll in Arizona.

Q. Does Illuminet object to the principle that recovery of SS7 signaling costs should be related to a customer's use of SS7 signaling?

A. No. As explained above, Illuminet supports the concept of unbundling charges for SS7 signaling. Our problem is that by recovering all SS7 signaling costs through switched access rates, Qwest will be able to charge Illuminet for signaling associated with traffic, which is not itself subject to the switched access tariff and could not, therefore, be charged directly to Illuminet's carrier/customers. If approved, this tariff would thus allow Qwest to circumvent existing methods of cost recovery or sharing for this Non-Chargeable Traffic. For example, some Non-Chargeable Traffic is subject to ICAs that provide either for Reciprocal Compensation or Bill and Keep, and therefore additional charges as proposed by Qwest should not be imposed. Similarly, where Qwest and Illuminet's carrier/customer jointly provide access under a meet point billing arrangement, there is no basis for charging the Illuminet carrier/customer. The Commission should not, therefore, sanction a tariff that would permit Qwest to do indirectly what it cannot do directly.

Q. Has Illuminet explained its function as a pass-through entity to Qwest?

A. Yes, many times, but Qwest apparently chooses to ignore the fact that Illuminet's carrier/customers have been paying Qwest for the SS7 signaling, which passes through

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Qwest's network. Otherwise, and while I strongly disagree with the last half of his statement, Mr. McIntyre could not have made the statement at page 17 in his testimony that, since "third party providers have had no access expenses in the form of switching minute of use charges, they have effectively been receiving the use of Qwest's signaling network at no charge." As I described above, not only are Qwest's costs not increased when a carrier connects through Illuminet, but will often be decreased because of the economies of scale offered by Illuminet. It is thus clearly incorrect for Qwest to claim that it has <u>not</u> been fully compensated through its switched access charges to Illuminet's carrier/customers.

Q. Will all customers pay their fair share of the cost of Qwest's SS7 network under the proposed tariff?

A. No. While switched access customers will at least see some reduction in their local switching and CCL charges, the charges for SS7 signaling in connection with Non-Chargeable Traffic will not be fairly apportioned, because Qwest's proposed tariff apparently assumes incorrectly that all such traffic is switched access. Illuminet's carrier/customers should not have to pay charges for Non-Chargeable Traffic. It is neither fair nor reasonable for Qwest to expect Illuminet to absorb these improper charges. The only fair approach is for Qwest to allocate the appropriate percentage of SS7 messages attributable to Non-Chargeable Traffic to the carriers involved in a manner that reflects the preexisting relationships appropriate for the associated enduser traffic.

Q. Do you have any comment on Mr. McIntyre's description of the SS7 network?

A. Yes. Based on Mr. McIntyre's testimony such as that found at page 8, lines 4 through 13 and page 10 at lines 1 through 10, the Commission may be left with the impression that the SS7 signaling network is separate and apart from the PSTN end user traffic the SS7 network supports. While the SS7 signaling network functions independently of the PSTN, the SS7 network was established to support the PSTN. For the reasons I have provided above, the SS7 messages at issue here are an integral component of the end-

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user traffic that is carried over the PSTN. Qwest also recognizes this fact by virtue of the fact the proposed charges were previously a component of the switched access charges assessed to an IXC for telephone toll traffic.

Q. Do you agree with Mr. McIntyre's view of the significance of the FCC approval of SS7 unbundling?

A. No, Mr. McIntyre apparently wants the Commission to believe that, since no party opposed the FCC tariff filing (page 12, line 12 through page 13, lines 1 through 9), the proposed tariff should be approved without rigorous review. As I indicated before, Illuminet is not opposed to unbundling if it is implemented properly, which is not the case here. Moreover, the implementation of the interstate tariff structure required only the disaggregation of messages between interstate telephone toll traffic and intrastate toll traffic. While that disagregation was difficult enough to implement, the failure of Qwest to fully implement adequate measurement capabilities in the monitoring technology it uses and provide adequate billing detail to its customer invoices are now more pronounced. Qwest's inability to implement the proposed tariff structure with the proper recognition that intrastate SS7 signaling must be further disaggregated based on the distinct intrastate end user traffic types requires Commission scrutiny.

Q. Do you have any additional specific observations regarding Mr. McIntyre's testimony?

A. Yes. Again to ensure the record is clear, Illuminet does not "set up calls for its customers" as indicated by Mr. McIntyre on page 19, lines 2-3 of his testimony. The signaling that is the subject of the proposed charges is being generated by the Illuminet carrier/customer. Moreover, it is unclear exactly what Mr. McIntyre is attempting to suggest in his testimony on page 19, lines 11-15 regarding what he purports to be "fair." As indicated above, Illuminet does not obtain connection to Qwest's STPs "at no charge" (page 19, line 15) nor would the Illuminet carrier/customer (which is recovering the reduction in its switched access charges) be failing to pay the SS7 signaling message charges under the proposed tariff when that carrier/customer is the end user's intrastate

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1	toll provider. It is self-evident that these Mr. McIntyre statements and inferences
2	including those suggesting that an Illuminet carrier/customer is paying twice for SS7
3	services (page 19, lines 17-22 to page 20, line 1) are simply an attempt to divert
4	attention from the fact that Qwest prematurely proposed a tariff structure that it cannot
5	properly implement or justify. Any "urgency" that Qwest suggests exists (page 20, line
6	21-22 to page 21, lines 1-11) misfocuses the proper inquiry in this proceeding.
7	Accordingly, it is imperative that the Commission not approve a tariff structure that
8	improperly shifts cost recovery from Qwest to Illuminet and its carrier/customers.
9	
10	Q. Does this end your testimony?

11 A. Yes.